

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

Claims 1 and 2 (Cancelled).

3. (Currently Amended) A method of video motion estimation for determining the dominant motion in a video image, said dominant motion being defined by a parametric transform which maps the movement of an image block from a first frame of the video to a second frame; the method comprising:
- (a) selecting a plurality of blocks in the first frame, and matching said blocks with their respective block positions in the second frame;
 - (b) from the measured movements of the blocks between the first and second frames, calculating a plurality of estimates for a parameter of the transform;
 - (c) sorting the parameter estimates into an ordered list; and
 - (d) determining a best global value for the parameter by examining the ordered list wherein the best global value is determined by differentiating the ordered list to create an output list, and selecting a minimum value of the output list and wherein A method as claimed in claim 2 in which the determination of the best global value includes the step of selecting the longest run of values in the output list below a threshold value.
4. (Currently Amended) A method of video motion estimation for determining the dominant motion in a video image, said dominant motion being defined by a parametric transform which maps the movement of an image block from a first frame of the video to a second frame; the method comprising:
- (a) selecting a plurality of blocks in the first frame, and matching said blocks with their respective block positions in the second frame;
 - (b) from the measured movements of the blocks between the first and second frames, calculating a plurality of estimates for a parameter of the transform;
 - (c) sorting the parameter estimates into an ordered list; and
 - (d) determining a best global value for the parameter by examining the ordered list wherein the best global value is determined by differentiating the ordered list to create an output list, and selecting a minimum value of the output list A method as claimed in claim 2

in which the determination of the best global value includes the step of selecting the longest run of values in the output list below a threshold value, and selecting a mid-point of the said longest run.

Claims 5-12 (Cancelled).

13. (Currently Amended) A method of video motion estimation for determining the dominant motion in a video image, said dominant motion being defined by a parametric transform which maps the movement of an image block from a first frame of the video to a second frame; the method comprising:

(a) selecting a plurality of blocks in the first frame, and matching said blocks with their respective block positions in the second frame;

(b) from the measured movements of the blocks between the first and second frames, calculating a plurality of estimates for a parameter of the transform;

(c) sorting the parameter estimates into an ordered list; and

(d) determining a best global value for the parameter by examining the ordered list, in which the transform is a similarity transform and ~~A method as claimed in claim 8~~ in which an estimate of $M \cos \theta$ where $M \sin \theta$ represents zoom and θ represents rotation is calculated for each pair of selected blocks in the first frame; and in which the best global values of $M \cos \theta$ and $M \sin \theta$ are determined from respective ordered lists.

14. (Currently Amended) A method of video motion estimation for determining the dominant motion in a video image, said dominant motion being defined by a parametric transform which maps the movement of an image block from a first frame of the video to a second frame; the method comprising:

(a) selecting a plurality of blocks in the first frame, and matching said blocks with their respective block positions in the second frame;

(b) from the measured movements of the blocks between the first and second frames, calculating a plurality of estimates for a parameter of the transform;

(c) sorting the parameter estimates into an ordered list; and

(d) determining a best global value for the parameter by examining the ordered list in which the transform is a similarity transform and in which an estimate of zoom is

calculated for each pair of selected blocks in the first frame, the best global zoom value being determined from a zoom values ordered list and A method as claimed in claim 10 or claim 11 in which the best global zoom value is fed back into the similarity transform to produce a plurality of estimates of translation parameters in x and y, the best global translation parameters in x and y being determined from respective ordered lists.

15. (Currently Amended) A method of video motion estimation for determining the dominant motion in a video image, said dominant motion being defined by a parametric transform which maps the movement of an image block from a first frame of the video to a second frame; the method comprising:

(a) selecting a plurality of blocks in the first frame, and matching said blocks with their respective block positions in the second frame;

(b) from the measured movements of the blocks between the first and second frames, calculating a plurality of estimates for a parameter of the transform;

(c) sorting the parameter estimates into an ordered list; and

(d) determining a best global value for the parameter by examining the ordered list in which the transform is a similarity transform and in which an estimate of zoom and rotation is calculated for each pair of selected blocks in the first frame, the best global zoom and rotation value being determined from respective zoom and rotation value ordered lists and A method as claimed in claim 12 or claim 13 in which the said best global estimates are fed back into the similarity transform to produce a plurality of estimates of translation parameters in x and y, the best global translation parameters in x and y being determined from respective ordered lists.

Claims 16-27 (Cancelled).

28. (New) A method of video motion estimation for determining the dominant motion in a video image, said dominant motion being defined by a parametric transform which maps the movement of an image block from a first frame of the video to a second frame; the method comprising:

(a) selecting a plurality of blocks in the first frame, and matching said blocks with their respective block positions in the second frame;

(b) from the measured movements of the blocks between the first and second frames, calculating a plurality of estimates for a parameter of the transform;

(c) sorting the parameter estimates into an ordered list; and

(d) determining a best global value for the parameter by examining the ordered list in which the transform is a similarity transform and in which two estimates of zoom are calculated for each pair of selected blocks in the first frame, the two estimates being sorted into a single consolidated ordered list, and the best global zoom value being determined by examining the consolidated ordered list and in which the best global zoom value is fed back into the similarity transform to produce a plurality of estimates of translation parameters in x and y, the best global translation parameters in x and y being determined from respective ordered lists.

29. (New) A method of video motion estimation for determining the dominant motion in a video image, said dominant motion being defined by a parametric transform which maps the movement of an image block from a first frame of the video to a second frame; the method comprising:

(a) selecting a plurality of blocks in the first frame, and matching said blocks with their respective block positions in the second frame;

(b) from the measured movements of the blocks between the first and second frames, calculating a plurality of estimates for a parameter of the transform;

(c) sorting the parameter estimates into an ordered list; and

(d) determining a best global value for the parameter by examining the ordered list in which the transform is a similarity transform and in which an estimate of $M \cos \theta$ where $M \sin \theta$ represents zoom and θ represents rotation is calculated for each pair of selected blocks in the first frame; and in which the best global values of $M \cos \theta$ and $M \sin \theta$ are determined from respective ordered lists, and in which the said best global estimates are fed back into the similarity transform to produce a plurality of estimates of translation parameters in x and y, the best global translation parameters in x and y being determined from respective ordered lists.